Abstract

A system is disclosed for assembling optical components relative to one another, the system comprising: a plurality of carrier components, each one of the carrier components having a base portion, a top surface and a bottom surface of the base portion in opposition to one another, the base portion defining a given geometric shape, and at least one of the optical components disposed on the top surface of the base portion; an optical platform having an upper surface and a lower surface in opposition to one another, the upper surface of the optical platform having alignment patterns extending upwardly therefrom, and the alignment patterns defining a plurality of regions therebetween on the optical platform, wherein one of the regions is configured to secure the given geometric shape of the base portion of one of the carrier components thereto; and alignment means for aligning an optical transmission between the optical components mounted on separate ones of the carrier components.

A method is disclosed for assembling optical components relative to one another, the method comprising: selecting at least two carrier components from a group of carrier components, each one of the carrier components having at least one optical component mounted thereon; selecting a given number of regions from a plurality of the regions formed by alignment patterns on an optical platform, the given number of regions being equal in number to the at least two carrier components selected from the group of carrier components; and positioning each one of the at least two carrier components within the selected regions formed by the alignment patterns on the optical platform.

An assembly is disclosed for optical components, the assembly comprising: a platform for receiving and supporting a plurality of carrier components having optical components mounted thereon; carrier component receiving stations formed on the platform, each of the stations being adapted to receive and retain one of the carrier components; a first one of the carrier components having a light beam outlet; and a second

one of the carrier components having a light beam receiving port, wherein the optical component receiving stations are disposed to position the first one of the components and second one of the components relative to one another such that the light beam outlet and the light beam receiving port are in alignment with one another.

A method is disclosed for assembling optical components into an assembly for providing an emitted beam of light and for manipulating the beam of light to provide a desired result, the method comprising the steps of: providing an optical component mounted to a carrier component for emitting a light beam; providing further optical components mounted to a further carrier component, the optical components adapted for manipulating the emitted beam to obtain a desired optical output; providing a platform having stations adapted to receive the carrier components having the optical components and retain the carrier components having the optical components in position for interaction with each other so as to effect the desired optical output; providing a repository of

diverse optical components mounted to carrier components, each adapted to perform an operation on the emitting beam of light; and fixing the carrier component having the light emitting optical component and the further carrier components having the optical components selected from the repository of optical components to the platform; whereby to form an assembly of optical components configured to manipulate the emitted beam to accomplish the desired result.